

REPORT ON BOILERS.

No. 104073

21 NOV 1946

Received at London Office

Date of writing Report

19

When handed in at Local Office

11. 11. 1946

Port of

NEWCASTLE-ON-TYNE

No. in Surrey held at
Reg. Book.

Newcastle on Tyne

Date, First Survey

(1945) June 26th

Last Survey

Oct. 31st

1946

85891 on the

M.V. BRITISH EARL

(Number of Visits 112)

Gross 8573.44

Tons Net 4908.97

Built at Walker By whom built Swan Hunter & Wigham Richardson Ltd Yard No. 1772 When built 1946

Engines made at Neptune Works Walker By whom made Swan Hunter & Wigham Richardson Ltd Engine No. 1772 When made 1946

Boilers made at " By whom made " " Boiler No. 1772 When made 1946

Nominal Horse Power 267 Owners British Tanker Co Ltd Port belonging to London

MULTITUBULAR BOILERS ~~MAIN~~, ~~AUXILIARY~~, OR DONKEY.

Manufacturers of Steel

C. J. Williams Ltd

(Letter for Record)

S

Total Heating Surface of Boilers

4010 sq

Is forced draught fitted

Yes

Coal or Oil fired

waste heat

No. and Description of Boilers

Two single ended multitubular

Working Pressure

150 lbs/sq

Tested by hydraulic pressure to

275 lbs/sq

Date of test 1-5-46

No. of Certificate

S-1204

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

2-Spring loaded-Cockburns Improved

Area of each set of valves per boiler

(per Rule 7.76 sq

as fitted 9.80 sq

Pressure to which they are adjusted

150 lbs/sq

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

✓

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-0"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and ~~deck~~ ^{bulkhead} plating

3'-6"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-9"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

30-34 Tons/sq

Thickness

27/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.L.J.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

(circ. seams 15/16"

(long. seams 7/8"

Pitch of rivets

2'-9 1/4"

Percentage of strength of circ. end seams

plate 68.18

rivets 42.56

Percentage of strength of circ. intermediate seam

plate 85.41

rivets 85.36

Percentage of strength of longitudinal joint

plate 85.41

rivets 85.36

combined 87.90

Thickness of butt straps

outer 21/32"

inner 25/32"

No. and Description of Furnaces in each Boiler

2 Deighton Type

Material

Steel

Tensile strength

26-30 Tons/sq

Smallest outside diameter

3'-9 3/4"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom 1/2"

Description of longitudinal joint

✓

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material

Steel

Tensile strength

26-30 Tons/sq

Thickness

1"

Pitch of stays

18" x 14 1/4"

How are stays secured

Screwed into plates + nuts outside only

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 Tons/sq

Thickness

7/8"

Mean pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

13 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 Tons/sq

Depth and thickness of girder

at centre

8 1/4" x 1 1/4"

Length as per Rule

2'-8 19/32"

Distance apart

8 7/8"

No. and pitch of stays

in each

2 @ 10"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Tons/sq

Thickness: Sides

5/8"

Back

23/32"

Top

5/8"

Bottom

5/8"

Pitch of stays to ditto:

Sides

10" x 8 1/4"

Back

9 1/4" x 8"

Top

10" x 8 7/8"

Are stays fitted with nuts or riveted over

Nuts

Rivets

Rivets

Rivets

Rivets

Rivets

Front plate at bottom: Material

Steel

Tensile strength

26-30 Tons/sq

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 Tons/sq

Thickness

7/8"

Pitch of stays at wide water space

15" x 7 1/2"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

Steel

Tensile strength

28-32 Tons/sq

Diameter

At body of stay,

or

Over threads

2 5/8" & 2 3/8"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30 Tons/sq

Diameter

At turned off part,

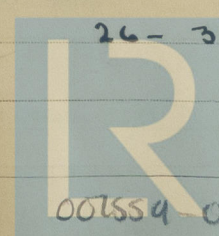
or

Over threads

1 1/2"

No. of threads per inch

9



Lloyd's Register Foundation

Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 5/8" + 1 3/4" or Over threads 1 5/8" + 1 3/4" ✓
No. of threads per inch 9
Tubes: Material Seamless steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 W.G. 5/16" + 1/4" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 2 1/2" x 20 1/2" No. of rivets and diameter of rivet holes 38 = 1 5/8" ✓
Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 2 1/2" Steam Dome: Material ✓
Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint ✓
Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint { Plate ✓ Rivets ✓
Internal diameter ✓ Thickness of crown ✓ No. and diameter of stays ✓ Inner radius of crown ✓
How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell ✓

Type of Superheater _____ Manufacturers of { Tubes _____ Steel forgings _____ Steel castings _____
Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____
Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
Area of each safety valve _____ Are the safety valves fitted with easing gear _____
Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____
tubes _____ forgings and castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____
The foregoing is a correct description, P.L. Jones Manufacturer.
FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

Dates of Survey { During progress of work in shops - - - } See Machinery Report Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)
while building { During erection on board vessel - - - }
Total No. of visits ✓

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been built under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. Hydraulic test satisfactory. They have been efficiently installed & fixed in vessel, examined under steam & their safety valves adjusted to the approved pressure.

Survey Fee ... £ See Machinery Report When applied for, 19
Travelling Expenses (if any) £ See Machinery Report When received, 19
J. H. Matthews
Engineer Surveyor to Lloyd's Register of Shipping.